

Agilent Ref: 10010792-1  
United States Application Serial No. 10/023,375

### **RESPONSE**

In view of the following remarks, the Examiner is respectfully requested to withdraw the rejections and allow Claims 1-17 and 29-35, the only claims pending and currently under examination in this application.

#### **Formal Matters**

Claims 1, 10 and 30 have been amended to specify that the printhead dies are bonded to the orifice plate, support for this amendment being found on page 7, line 10. Claims 1, 10 and 30 have also been amended to specify that each printhead die includes a plurality of resistors, support for this amendment being found on page 9, line 15. Claims 5, 14, and 34 have been amended for consistency with the amendments to the independent claims, reviewed above. As the above amendments introduce no new matter, their entry by the Examiner is respectfully requested.

#### **Rejection under 35 U.S.C. §102(e)**

In the advisory action, the rejection of Claims 1-4, 6-13, 15-17, 29-33 and 35 under 35 U.S.C. § 102(e) as allegedly being anticipated by Kennedy (U.S. Patent No. 6,074,725) was maintained.

The claimed invention is directed to a pulse jet printhead including (1) a multiple die printhead that includes an orifice plate having a plurality of orifices and a plurality of thermal printhead dies bonded to the orifice plate in operational alignment with the orifices to produce at least one firing chamber, and (2) a volume of an aqueous fluid that includes a biopolymer or a precursor thereof in the firing chamber.

Accordingly, an element of the Applicants' claimed invention is the presence of **multiple printhead dies bonded to an orifice plate**. In other words, a single orifice plate has more than one printhead die bonded to it.

In addition, each printhead die include a plurality of resistors.

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For example, a printhead having two printhead dies (A and B), each with five resistors (A 1-5) and (B 1-5), results in printhead die A and printhead die B bonded to the same orifice plate such that five individual orifices align with resistors (A 1-5) and another five orifices align with resistors (B 1-5), respectively. The energization of any of (A 1-5) resistors causes expulsion of fluid A from firing chamber and accordingly, the energization of any of (B 1-5) resistors expels fluid B.

Turning now to the rejection, it is respectfully submitted that Kennedy fails to teach a multiple die printhead having a plurality of thermal printhead dies in operational alignment with the orifices of the orifice plate.

In maintaining the rejection, the Examiner has asserted that Kennedy discloses a plurality of thermal printhead dies at column 11, lines 26-28, and that the printhead dies are in operational alignment with orifices as disclosed in column 7, line 4.

However, none of the passages cited by the Examiner teach a plurality of thermal printhead dies in operational alignment with the orifices. Instead, for example at col. 6, line 60 of Kennedy, the reference teaches that "a print head can incorporate from one to hundreds of ink orifices, with more orifices generally resulting in higher resolution and faster printing speeds." It seems that the Examiner is relying on this statement to provide the element of a plurality of thermal printhead dies.

However, one printhead can have many orifices and resistors and still not have multiple printhead dies. For example, a single printhead may include multiple resistors and multiple orifices with each orifice aligned with a specific resistor to dispense fluid drawn from the same reservoir. As such, each orifice dispenses the identical fluid sample onto the substrate. However, such a structure includes only a single printhead die, and not multiple printhead dies.

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Because the Kennedy reference fails to teach the element of the claimed invention in which a multiple die printhead includes an orifice plate having a plurality of printhead dies, it is respectfully submitted that Claims 1-17, 29, and 30-35 are not anticipated under 35 U.S.C. § 102(e) over Kennedy and that this rejection may therefore be withdrawn.

**Rejection under 35 U.S.C. §103**

Claims 5, 14, and 34 have been rejected under 35 U.S.C. § 103 as allegedly being rendered obvious by Kennedy in view of Gordon et al. (U.S. Patent No. 5,855,835).

In order for a cited reference to render the claims of the present application obvious, each and every limitation found in the claims must be disclosed in the cited reference. As noted above, Kennedy fails to teach each and every limitation found in the claims of the present application. In particular, Kennedy fails to teach a **plurality of printhead dies** in operational alignment with a plurality of orifices. Moreover, since Gordon was cited solely for teaching formation of a resistor on a substrate that is made of a semiconductor, the cited reference fails to make up the deficiency of Kennedy. Therefore, the references alone or in combination do not teach each and every element found in the claims.

As such, since the combination of the cited references fails to teach each every limitation found in the claims of the present application, the cited references fails to render the claims of the present application obvious. Therefore, the Applicants respectfully request that this rejection be withdrawn.

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**Conclusion**

The Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078.

Respectfully submitted,

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By: 

Bret E. Field  
Registration No. 37,620

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, Colorado 80537-0599

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